

WHAT IS CLAIMED IS:

1. A high-speed WPAN (Wireless Personal Area Network) system configured by a previously-formed parent piconet including a plurality of devices and a child piconet that is newly-formed using at least one timeslot allocated by a device located in the parent piconet,

5 comprising:

at least one first device, located in the child piconet that includes a C-MIB (Child Piconet Management Information Base) for storing mapping information associated with devices located in the child piconet,

the first device receiving information concerning at least one of the plurality of
 10 devices that are located in the parent piconet, generating mapping information for bridging, and storing the generated mapping information in a first B-MIB (Bridging Management Information Base), detecting information of a destination device from the mapping information stored in the first B-MIB and transmitting the data containing the detected information;

15 at least one C-PNC (Child Piconet Coordinator) device, located in a common area between the parent and child piconets, including a C-MIB and a P-MIB (Parent Piconet Management Information Base) for storing mapping information associated with the devices located in the parent piconet, wherein the C-PNC device broadcasts the mapping information stored in the C-MIB and P-MIB to different piconets and switches and
 20 transmits the data from the first device to the parent piconet; and

at least one second device, located in the parent piconet, including a P-MIB, the

second device generating mapping information for bridging associated with the devices located in the child piconet from the mapping information broadcast by the C-PNC device, storing the generated mapping information in a second B-MIB and receiving the data from the C-PNC device.

5 2. The high-speed WPAN system as set forth in claim 1, wherein the mapping information stored in the C-MIB, P-MIB and B-MIB contains device addresses, device IDs (Identifiers and Identities) and IDs of different piconets in which corresponding devices in the different piconets are located.

 3. The high-speed WPAN system as set forth in claim 2, wherein each of the device
10 addresses comprises a MAC (Media Access Control) address.

 4. The high-speed WPAN system as set forth in claim 3, wherein the MAC address comprises about 64 bits.

 5. The high-speed WPAN system as set forth in claim 2; wherein each of the device IDs comprises 8 bits.

15 6. The high-speed WPAN system as set forth in claim 1, wherein the second device detects information of the first device from the mapping information stored in the second

B-MIB and transmits data containing the detected information to the C-PNC device, wherein when the second device desires to transmit the data to the first device, and the C-PNC device transmits the data from the second device to the first device using the mapping information stored in the C-MIB.

5 7. A method for transmitting data using a high-speed WPAN (Wireless Personal Area Network) system configured by a previously-formed parent piconet including a plurality of devices and a child piconet newly-formed using at least one timeslot allocated by a device located in the parent piconet, the high-speed WPAN system comprising: a first device, located in the child piconet, including a C-MIB (Child Piconet Management
10 Information Base) for storing mapping information associated with devices located in the child piconet and a first B-MIB (Bridging Management Information Base) for storing mapping information to be bridged to the devices located in the parent piconet; at least one C-PNC (Child Piconet Coordinator) device, located in a common area between the parent and child piconets, including a C-MIB and a P-MIB (Parent Piconet Management
15 Information Base) for storing mapping information associated with the devices located in the parent piconet; and a second device, located in the parent piconet, including a P-MIB and a second B-MIB for storing mapping information to be bridged to the devices located in the child piconet, said method comprising the steps of:

(a) detecting destination information of data by the first device, said destination
20 information to be transmitted from the mapping information stored in the first B-MIB;

(b) transmitting by the first device the data on the basis of the destination information;

(c) switching and transmitting by the C PNC device of the data received from the first device to the parent piconet, wherein the C-PNC device broadcasts the mapping information associated with the first and second devices to different piconets; and
 5 wherein the second device receives the data from the C-PNC device.

8. The method as set forth in claim 7, wherein the mapping information associated with the first and second devices and the mapping information stored in the first and second B-MIBs contain device addresses, device IDs (Identifiers and Identities) and IDs of
 10 different piconets in which corresponding devices are located.

9. The method as set forth in claim 7, further comprising the steps of:

(d) detecting information by the second device of the first device that is obtained from the mapping information stored in the second B-MIB, and transmitting the data containing the detected information to the C-PNC device; and

15 (e) transmitting the data by the C-PNC device from the second device to the first device using the mapping information stored in the C-MIB.

10. A method for transmitting data using a high-speed WPAN (Wireless Personal Area Network) system configured by a previously formed parent piconet that includes a

plurality of devices and a child piconet newly formed using at least one timeslot allocated by a device located in the parent piconet, the high-speed WPAN system comprising: a first device, located in the child piconet, including a C-MIB (Child Piconet Management Information Base) for storing mapping information associated with devices located in the child piconet and a first B-MIB (Bridging Management Information Base) for storing mapping information to be bridged to the devices located in the parent piconet, and at least one C-PNC (Child Piconet Coordinator) device, located in a common area between the parent and child piconets, including a C-MIB and a P-MIB (Parent Piconet Management Information Base) for storing mapping information associated with the devices located in the parent piconet; and a second device, located in the parent piconet, including a P-MIB and a second B-MIB for storing mapping information to be bridged to the devices located in the child piconet, said method comprising the steps of:

(a) detecting destination information of data by the second device to be transmitted from the mapping information stored in the second B-MIB;

(b) transmitting the data from the second device on the basis of the destination information;

(c) switching and transmitting the data received by the C-PNC device from the second device to the child piconet, the C-PNC device broadcasting the mapping information associated with the first and second devices to different piconets; and

(d) receiving the data from the C-PNC device by the first device.

11. The method as set forth in claim 10, further comprising the steps of:

(e) detecting information by the first device of the second device obtained from the mapping information stored in the first B-MIB and transmitting the data containing the detected information to the C-PNC device; and

5 (f) transmitting the data from the C-PNC device from the first device to the second device using the mapping information stored in the P-MIB.

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